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Sediment Incipient Motion in Sewer with a Bed Deposit

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ABSTRACT

This paper analyses experimental data on sediment incipient motion with varying sediment bed thickness (of d_{50}, 5, 10 and 24 mm). Sediment particles (with sizes ranging from 0.5 mm to 4.78 mm) were used to evaluate the effect of deposited bed. Variation of shear velocity estimation was investigated where the critical Shields parameter was expressed using bed-slope product u_{*cb}, log-law u_{*cl} and was extended in terms of critical mean velocity. The critical Shields parameters obtained were significantly lower than the traditional Shields curve when u_{*cl} was used compared to u_{*cb}. Higher critical mean velocity is needed for shallower deposits.

Keywords: Threshold criteria of sediment motion, shields parameter, sediment bed thickness.

Note:
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